

CLAIMS

1. An image forming apparatus comprising:

light-emitting means for emitting a light beam in
accordance with image data representing pixels arranged
5 in a main scanning direction and a sub-scanning
direction;

an image carrier for forming an electrostatic
latent image when scanned with the light beam emitted
from the light-emitting means;

10 scanning means for scanning the image carrier with
the light beam emitted from the light-emitting means,
said scanning means including a polygon mirror for
reflecting the light beam;

first drive means for rotating the polygon mirror;

15 second drive means for rotating the image carrier,
thereby to move a surface of the image carrier in the
sub-scanning direction;

developing means for applying developer onto the
image carrier, thereby to develop the electrostatic
20 latent image into a visible image;

transfer means for transferring the visible
image from the image carrier onto an image-forming
medium;

first speed-changing means for changing a rota-
25 tional speed of the first drive means in accordance
with an error in magnification in the main scanning
direction, said error being determined from a size

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ratio of the visible image transferred onto the image-forming medium to an original document image; and

second speed-changing means for changing
a rotational speed of the second drive means in
5 accordance with the change in the rotational speed
of the first drive means.

2. An apparatus according to claim 1, wherein the first drive means has clock input means for inputting a reference clock data and rotates the polygon mirror
10 at a speed corresponding to the reference clock data, and the first speed-changing means has data input means for inputting data representing the reference clock corresponding to the error.

3. An apparatus according to claim 1, further
15 comprising data-reading means for optically reading data printed on the document sheet and for providing the data, thus read, as said image data.

4. An apparatus according to claim 1, which further comprises facsimile means for receiving
20 facsimile data from an external apparatus and providing the facsimile data as said image data, and in which the first speed-changing means has:

third speed-changing means for changing the rotational speed of the first drive means to a new
25 rotational speed in accordance with an error in magnification in the main scanning direction, said error being determined from a size ratio of the visible

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image represented by the facsimile data and transferred onto the image-forming medium to an original document image; and

5 storage means for storing data representing the new rotational speed as data at which first drive means should be rotated in order to form an image represented by the facsimile data.

10 5. An apparatus according to claim 1, which further comprises printer control means for receiving code data from an external apparatus, processing the code data into font data representing characters having a size represented by character size data added to the code data and providing the ^{font}~~front~~ data as said image data, and in which the first speed-changing means has:

15 third speed-changing means for changing the rotational speed of the first drive means to a new rotational speed in accordance with an error in magnification in the main scanning direction, said error being determined from a size ratio of a size of character in the visible image represented by the code data transferred onto the image-forming medium to the size represented by the character size data; and

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25 storage means for storing data representing the new rotational speed as data, at which first drive means should be rotated in order to form an image represented by the code data.

6. A method of forming an image, comprising

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the steps of:

emitting a light beam in accordance with image data representing pixels arranged in a main scanning direction and a sub-scanning direction;

5 scanning an image carrier with the light beam in the main scanning direction by reflecting the light beam by means of a rotating polygon mirror;

rotating the image carrier, thereby moving a surface of the image carrier in the sub-scanning direction and forming an electrostatic latent image on the surface of the image carrier;

10 applying developer onto the image carrier, thereby to develop the electrostatic latent image into a visible image;

15 transferring the visible image from the image carrier onto an image-forming medium;

changing a rotational speed of the polygon mirror in accordance with an error in magnification in the main scanning direction, said magnification being determined from a size ratio of the visible image transferred onto the image-forming medium to an original document image and

20 changing a rotational speed of the image carrier in accordance with the change in the rotational speed of the polygon mirror.

25 7. A method according to claim 6, wherein the step of scanning an image carrier includes a step of

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inputting a reference clock data and a step of rotating the polygon mirror at a speed corresponding to the reference clock data, and the step of changing a rotational speed of the polygon mirror includes
5 a step of inputting data representing the reference clock corresponding to the error.

8. A method according to claim 6, further comprising a step of optically reading data printed on the document sheet and providing the data, thus read,
10 as said image data.

9. A method according to claim 8, wherein the step of optically reading data includes a step of reading an image of a scale, and the step of changing a rotational speed of the polygon mirror includes a step
15 of changing the rotational speed of the polygon mirror in accordance with an error in magnification in the main scanning direction, said error being determined from a size ratio of the visible image transferred onto the image-forming medium to an original scale image.

10. A method according to claim 6, which further comprises a step of receiving facsimile data representing the image of the scale and supplying the facsimile data as said image data, and in which the step of changing the rotational speed of the polygon
20 mirror includes a step of changing the rotational speed of the polygon mirror to a new rotational speed in accordance with an error in magnification in the main

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scanning direction, said error being detected from
a size ratio of the visible image represented by the
facsimile data and transferred onto the image-forming
medium to the original image of the scale, and a step
5 of storing the new rotational speed as data, at which
the polygon mirror should be rotated in order to form
an image represented by the facsimile data.

11. A method according to claim 6, which
further comprises a step of receiving code data from
10 an external apparatus, processing the code data into
font data representing a character having a size
represented by character size data added to the code
data and in which the step of changing the rotational
speed of the polygon mirror includes a step of changing
15 the rotational speed of the polygon mirror to a new
rotational speed in accordance with an error in
magnification in the main scanning direction, said
error being determined from a ratio of a size of the
character in the visible image represented by the code
20 data and transferred onto the image-forming medium to
a size represented by the character size data, and
a step of storing the new rotational speed as data at
which the polygon mirror should be rotated in order to
form an image represented by the code data.

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